



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,042	04/25/2001	Katsumi Yamato	206502US2RD	4353
22850	7590	12/18/2003		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER EWART, JAMES D	
			ART UNIT 2683	PAPER NUMBER

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED:  
OBLON, SPIVAK, McCLELLAND  
MAIER & NEUSTADT, P.C.

DOCKETING DEPT.

Initials/Date Docketed:

Type of Resp(s):

Due Date(s):

12/19/03

34 12/19/03

RD 3/18/04

BEST AVAILABLE COPY

# Office Action Summary

Application No.

09/841,042

Applicant(s)

YAMATO ET AL.

Examiner

James D Ewart

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 17-20 is/are rejected.
- 7) ☒ Claim(s) 5 and 9-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

*Specification*

1. The disclosure is objected to because of the following informalities: Page 2, Line 10 reads "be s source" is incorrect and should be something like "be a source". Appropriate correction is required.

*Claim Objections*

2. Claim 6 is objected to because of the following informalities: "through at least on radio base *stations*" should be "at least through one radio base *station*". Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 6, 8, 19 and 20 are rejected under 35 USC 103(a) as being unpatentable over Clark et al (U.S. Patent No 6,611,687) in further view of Okada (U.S. Patent No. 6,484,032).

Referring to claims 1, 6, 19 and 20, Clark et al teaches a radio communication system, comprising: a plurality of radio base stations having respective service areas (Column 2, Lines 43-47); a mobile radio terminal configured to transmit a data transmission request through one radio base station (Column 4, Lines 66-67) and receive requested data through at least one radio base stations (Column 2, Lines 43-47 and Column 3, Lines 49-50); but does not teach a radio control station connected with the radio base stations and having: a moving route prediction unit configured to predict a moving route of the

mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request; and a server unit configured to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver the requested data to selected radio base stations. Okada teaches a radio control station (Figure 1; 14) connected with the radio base stations and having: a moving route prediction unit configured to predict a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request (Column 3, Lines 35-40); and a server unit configured to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver the requested data to selected radio base stations (Column 4, Lines 32-40). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Clark et al with the teachings of Okada of a radio control station connected with the radio base stations and having: a moving route prediction unit configured to predict a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request; and a server unit configured to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver the requested data to selected radio base stations to establish a path for communication with a mobile terminal by a base station control unit (Column 4, Lines 1-3)

Referring to claims 3 and 8, Okada further teaches wherein the mobile radio terminal has a global positioning system function, and periodically transmits the terminal location information containing a longitude and a latitude of a current location of the mobile radio terminal obtained by the global positioning system function, to the radio control station (Column 8, Lines 56-60).

4. Claims 2 and 7 are rejected under 35 USC 103(a) as being unpatentable over Clark et al and Okada and further view of Lincke (U.S. Patent Publication No. 2001/0044310).

Referring to claims 2 and 7, Clark et al and Okada teach the limitations of claim 2 and 7, but do not teach wherein the terminal location information is an identifier of the radio base station. Lincke teaches wherein the terminal location information is an identifier of the radio base station (0010). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Clark et al and Okada with the teaching of Lincke wherein the terminal location information is an identifier of the radio base station to convert the identification information of the base station into location information (0010).

5. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Clark et al and Okada and further view of Katz (U.S. Patent No. ~~2001/0044310~~).

6433737

Referring to claim 4, Clark et al and Okada teach the limitations of claim 4, but do not teach wherein each radio base station has: a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal wherein each radio base station has: a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal. Katz teaches wherein each radio base station has: a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements

configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal wherein each radio base station has (Column 1, Lines 13-24): a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal (Column 1, Lines 13-24). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Clark et al and Okada with the teachings of Katz wherein each radio base station has: a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal wherein each radio base station has: a beam formation unit configured to simultaneously form a plurality of space dividing beams; and an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal to provide directional antenna beams to be used in radio connections (Column 2, Lines 23-24)

Referring to claim 17, Okada further teaches wherein the moving route prediction unit predicts the moving route according to the terminal location information and traffic information (Column 7, Lines 8-15).

Referring to claim 18, Okada further teaches wherein the traffic information includes at least one of a moving speed of the mobile radio terminal, a legal speed limit on the moving route, a current moving

Application/Control Number: 09/841,042

Art Unit: 2683

speed of vehicles existing on the moving route, and a signal change pattern of a traffic signal existing on the moving route (Column 7, Lines 8-15).

***Allowable Subject Matter***

6. Claims 5 and 9-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Referring to claim 5, the references cited do not teach toward a direction of a location at which the mobile radio terminal will stop when a service area of each radio base station contains the location at which the mobile radio terminal will stop.

Referring to claims 9 - 16, the references cited do not teach wherein the server unit estimates a transmittable data amount indicating an amount of data that can be transmitted to the mobile radio terminal at each selected radio base station, and determines a delivery data amount indicating an amount of data to be delivered to each selected radio base station according to the transmittable data amount estimated for each selected radio base station.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Application/Control Number: 09/841,042

Art Unit: 2683

Asaoka et al. U.S. Patent No. 6,349,203 discloses moving body terminal device, information providing device, information providing system, information providing method and medium having recorded program for the moving body terminal device.

Bahl et al. U.S. Patent No. 6,385,454 discloses apparatus and method for management of resources in cellular networks.

Chern et al. U.S. Patent Publication No. 2002/0010000 discloses knowledge-based information retrieval system and method for wireless communication device.

Chun et al. U.S. Patent No. 6,564,057 discloses system and method for determining and handoff target base station in a mobile communication system.

Cox et al. U.S. Patent No. 6,580,904 discloses method of providing directional assistance to a mobile telephone subscriber.

Donis et al. U.S. Patent No. 6,014,564 discloses method and apparatus for determining virtual cell area.

Endo et al. U.S. Patent No. 6,617,980 discloses broadcasting type information providing system and travel environment information collecting device.

Grubeck et al. U.S. Patent No. 6,449,484 discloses method and arrangement in a radio communication system.

Pu et al. U.S. Patent No. 6,292,743 discloses mobile navigation system.

Song U.S. Patent No. 6,327,471 discloses method and apparatus for positioning system assisted cellular radiotelephone handoff and dropoff.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The

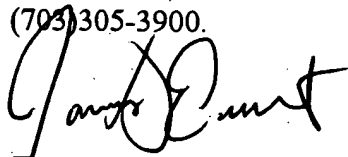


Application/Control Number: 09/841,042

Art Unit: 2683

examiner can normally be reached on M-F 7am - 4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, (703)308-5318 can be reached on **(703)308-5318**. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-9508 for regular communications and (703)305-9508 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is

(703)305-3900.

  
Ewart

November 26, 2003



WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600